IN THE CLAIMS:

1. (Currently amended) A method for promoting the survival, growth, proliferation, or maintenance of mammalian ~~neurons~~ motoneurons comprising administering to the ~~neurons~~ motoneurons an effective amount of a purified polypeptide comprising an amino acid sequence that is at least 80% identical to SEQ ID NO:4.

2. (Original) The method of claim 1, wherein the polypeptide is at least 85% identical to SEQ ID NO:4.

3. (Original) The method of claim 1, wherein the polypeptide is at least 90% identical to SEQ ID NO:4.

4. (Original) The method of claim 1, wherein the polypeptide is at least 95% identical to SEQ ID NO:4.

5. (Original) The method of claim 1, wherein the polypeptide is 100% identical to SEQ ID NO:4.

6. (Original) The method of claim 1, wherein the method comprises promoting regeneration of the axon of a motoneuron.

7. (Original) The method of claim 1, wherein the method comprises promoting the survival, growth, proliferation, or maintenance of neurons *in vitro*.

8. (Original) The method of claim 1, wherein the method comprises promoting the survival, growth, proliferation, or maintenance of isolated spinal motoneurons *in vitro*.

9. (Original) The method of claim 1, wherein the method comprises administering the polypeptide to non-neuronal cells or tissues sufficiently proximal to neurons such that the polypeptide is effective at promoting the survival, growth, proliferation, or maintenance of mammalian neurons.

10. (Original) The method of claim 1, wherein the method comprises promoting the rescue and morphologically-complete neuronal regeneration of axotomized motoneurons *in vivo*.

11. (Original) The method of claim 1, wherein the method comprises promoting the regeneration of nerve fibers in a severed or injured spinal cord of a mammal.

12. (Original) The method of claim 1, wherein the method comprises promoting the regeneration of peripheral nerves in a mammal.

13. (Original) The method of claim 1, wherein the method comprises promoting the axonal regeneration of axotomized motoneurons in a mammal.

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14. (Original) The method of claim 1, wherein the method comprises inhibiting the effects of hereditary motoneuron disease in a mammal where muscles associated with the diseased motoneurons degenerate.

15. (Original) The method of claim 1, wherein the method comprises administering the polypeptide in a suitable carrier to a mammal for treatment of a medical condition selected from the group consisting of: peripheral nerve injuries, musculoskeletal disorders, spinal cord injuries, head injuries, strokes, neuromuscular degenerative diseases, amyotrophic lateral sclerosis, spinal muscular atrophy, peripheral neuropathy, inhibition of scar formation, diabetic peripheral neuropathy, peripheral neuropathy resulting from AIDS, peripheral neuropathy resulting from radiation treatment for cancer, multiple sclerosis, muscular dystrophy, myasthenia gravis, and sensory neuronal function disorders.

16. (Currently amended) A method for promoting the survival, growth, proliferation, or maintenance of mammalian ~~neurons~~ motoneurons comprising administering to the ~~neurons~~ motoneurons an effective amount of a purified polypeptide, the sequence of which comprises SEQ ID NO:4, or SEQ ID NO:4 with one or more conservative amino acid substitution.

17. (Withdrawn) A method for promoting the survival, growth, proliferation, or maintenance of mammalian neurons comprising administering to the neurons an effective amount of a purified polypeptide comprising an amino acid sequence that is at least 80% identical to SEQ ID NO:3.

18. (Withdrawn) The method of claim 17, wherein the polypeptide is at least 85% identical to SEQ ID NO:3.

19. (Withdrawn) The method of claim 17, wherein the polypeptide is at least 90% identical to SEQ ID NO:3.

20. (Withdrawn) The method of claim 17, wherein the polypeptide is at least 95% identical to SEQ ID NO:3.

21. (Withdrawn) The method of claim 17, wherein the polypeptide is 100% identical to SEQ ID NO:3.

22. (Withdrawn) The method of claim 17, wherein the method comprises promoting regeneration of the axon of a motoneuron.

23. (Withdrawn) The method of claim 17, wherein the method comprises promoting the survival, growth, proliferation, or maintenance of neurons *in vitro*.

24. (Withdrawn) The method of claim 17, wherein the method comprises promoting the survival and growth of isolated spinal motoneurons *in vitro*.

25. (Withdrawn) The method of claim 17, wherein the method comprises promoting the rescue and morphologically-complete neuronal regeneration of axotomized motoneurons *in vivo*.

26. (Withdrawn) The method of claim 17, wherein the method comprises promoting the regeneration of nerve fibers in a severed or injured spinal cord of a mammal.

27. (Withdrawn) The method of claim 17, wherein the method comprises promoting the regeneration of peripheral nerves in a mammal.

28. (Withdrawn) The method of claim 17, wherein the method comprises promoting the axonal regeneration of axotomized motoneurons in a mammal.

29. (Withdrawn) The method of claim 17, wherein the method comprises administering the polypeptide to non-neuronal cells or tissues sufficiently proximal to neurons such that the polypeptide is effective at promoting the survival, growth, proliferation, or maintenance of mammalian neurons.

30. (Withdrawn) The method of claim 17, wherein the method comprises inhibiting the effects of hereditary motoneuron disease in a mammal where muscles associated with the diseased motoneurons degenerate.

31. (Withdrawn) The method of claim 17, wherein the method comprises administering the polypeptide in a suitable carrier to a mammal for treatment of a medical condition selected from the group consisting of: peripheral nerve injuries, musculoskeletal disorders, spinal cord injuries, head injuries, strokes, neuromuscular degenerative diseases, amyotrophic lateral sclerosis, spinal muscular atrophy, peripheral neuropathy, inhibition of scar formation, diabetic peripheral neuropathy, peripheral neuropathy resulting from AIDS, peripheral neuropathy resulting from radiation treatment for cancer, multiple sclerosis, muscular dystrophy, myasthenia gravis, and sensory neuronal function disorders.

32. (Withdrawn) A method for promoting the survival, growth, proliferation, or maintenance of mammalian neurons comprising administering to the neurons an effective amount of a purified polypeptide, the sequence of which comprises SEQ ID NO:3, or SEQ ID NO:3 with one or more conservative amino acid substitution.

33. (Withdrawn) A method of promoting the differentiation of neural stem cells into neural cells comprising administering to the neural stem cells an effective amount of a purified polypeptide comprising an amino acid sequence that is at least 80% identical to SEQ ID NO:4 or SEQ ID NO:3.

34. (Withdrawn) The method of claim 31, wherein the method comprises administering the polypeptide to non-neuronal cells or tissues sufficiently proximal to neural stem cells or tissues sufficiently proximal to neural stem cells such that the polypeptide is effective at promoting the differentiation of the neural stem cells into neurons.